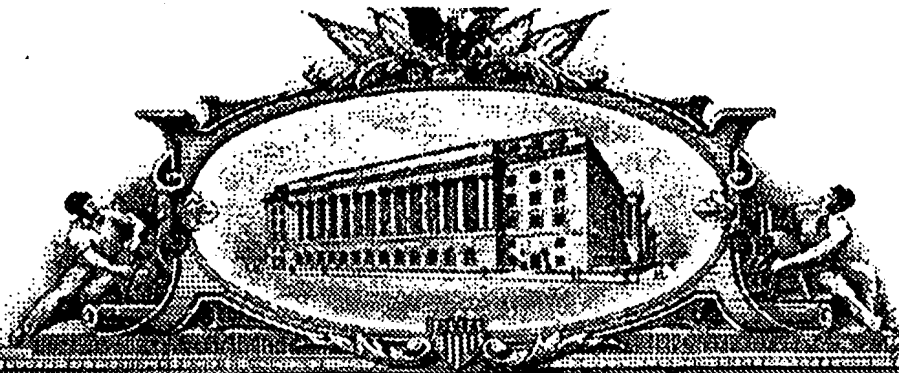


1218529



# THE UNITED STATES OF AMERICA

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United States Patent and Trademark Office

*August 29, 2004*

**THIS IS TO CERTIFY THAT ANNEXED HERETO IS A TRUE COPY FROM THE RECORDS OF THE UNITED STATES PATENT AND TRADEMARK OFFICE OF THOSE PAPERS OF THE BELOW IDENTIFIED PATENT APPLICATION THAT MET THE REQUIREMENTS TO BE GRANTED A FILING DATE.**

**APPLICATION NUMBER: 60/488,367**

**FILING DATE: *July 15, 2003***

**RELATED PCT APPLICATION NUMBER: *PCT/US04/22847***

Certified by

Jon W Dudas

Acting Under Secretary of Commerce  
for Intellectual Property  
and Acting Director of the U.S.  
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PTO/SB/16 (02-01)

## PROVISIONAL APPLICATION FOR PATENT COVER SHEET

This is a request for filing a PROVISIONAL APPLICATION FOR PATENT under 37 CFR 1.53 (c).

Express Mail Label No. EL 768 962 054 US

16447 U.S. PTO  
60/488367  
07/15/03

INVENTOR(S)					
Given Name (first and middle (if any))		Family Name or Surname	Residence (City and either State or Foreign Country)		
Paul		Rothstein	Toronto, ON		
Shawn R.		Nedy	Sunnyvale, CA		
Michael A.		Malcolm	Aspen, CO		
<input checked="" type="checkbox"/> Additional inventors are being named on the 1 separately numbered sheets attached hereto					
TITLE OF THE INVENTION (280 characters max)					
Bookmarks and Watchpoints for Selection and Presentation of Media Streams					
Direct all correspondence to:		CORRESPONDENCE ADDRESS			
<input checked="" type="checkbox"/> Customer Number		22883		22883	
OR		Type Customer Number here		PATENT TRADEMARK OFFICE	
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Address					
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Country		Telephone	Fax		
ENCLOSED APPLICATION PARTS (check all that apply)					
<input checked="" type="checkbox"/> Specification Number of Pages		19		<input type="checkbox"/> CD(s) Number	
<input type="checkbox"/> Drawing(s) Number of Sheets				<input checked="" type="checkbox"/> Other (specify)	
<input checked="" type="checkbox"/> Application Data Sheet. See 37 CFR 1.78		Claims, 4 pages; Abstract, 1 page; technical appendix, 153 pages.			
METHOD OF PAYMENT OF FILING FEES FOR THIS PROVISIONAL APPLICATION FOR PATENT (check one)					
<input type="checkbox"/> Applicant claims small entity status. See 37 CFR 1.27.					
<input type="checkbox"/> A check or money order is enclosed to cover the filing fees					
<input checked="" type="checkbox"/> The Commissioner is hereby authorized to charge filing fees or credit any overpayment to Deposit Account Number: 50-0365					
<input checked="" type="checkbox"/> Payment by credit card. Form PTO-2038 is attached.					
FILING FEE AMOUNT (\$) 160.00					
The invention was made by an agency of the United States Government or under a contract with an agency of the United States Government.					
<input checked="" type="checkbox"/> No.					
<input type="checkbox"/> Yes, the name of the U.S. Government agency and the Government contract number are:					

Respectfully submitted,

Date 07/15/03

SIGNATURE

SA Swernofsky

REGISTRATION NO.  
(if appropriate)

33,040

TYPED or PRINTED NAME

Steven A. Swernofsky

TELEPHONE 650-947-0700

Docket Number:

217.1019.01

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# PROVISIONAL APPLICATION COVER SHEET

## Additional Page

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<b>Docket Number</b>	217.1019.01	<b>Type a plus sign(+) inside this box →</b>	+
INVENTOR(S) / APPLICANT(S)			
Given Name (first and middle(if any))	Family or Surname	Residence (City and either State or Foreign Country)	
Lawrence	Kesteloot	San Francisco, CA USA	
Daniel A.	Collens	Waterloo, ON Canada	
Robert	Zarnke	Waterloo, ON Canada	
Nik	Gervae	Sunnyvale, CA USA	
Ray	DePaul	Waterloo, ON Canada	
Richard	Czegledi	Waterloo, ON Canada	
Kevin	Hui	Kitchener, ON <del>ON</del> Canada <i>S.K. Hui</i>	

Number 1 of 1

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PTO/SB/17 (01-03)

22883

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**FEE TRANSMITTAL  
for FY 2003**

Effective 01/01/2003 Patent fees are subject to annual inflation.

☐ Applicant Claims small entity status. See 37 CFR 1.27

TOTAL AMOUNT OF PAYMENT (\$160.00)

**Complete if Known**

Application Number	NYA
Filing Date	7/15/2003
First Named Inventor	Reichstainer, et al.
Examiner Name	NA
Art Unit	NA
Attorney Docket No.	217.1019.01

**METHOD OF PAYMENT (check all that apply)**☐ Check ☒ Credit card ☐ Money Order ☐ Other ☐ None☒ Deposit Account

Deposit Account Number	50-0365
Deposit Account Name	Swernofsky Law Group PC

The Commissioner is authorized to: (check all that apply)

☐ Charge fee(s) indicated below ☒ Credit any overpayments☒ Charge any additional fee(s) during the pendency of this application required for this filing☐ Charge fee(s) indicated below, except for the filing fee to the above-identified deposit account.**FEE CALCULATION****1. BASIC FILING FEE**

Large Entity	Small Entity	Fee Code	Fee (\$)	Fee Description	Fee Paid
		1001	750	2001 375 Utility filing fee	
		1002	330	2002 165 Design filing fee	
		1003	520	2003 260 Plant filing fee	
		1004	750	2004 375 Reissue filing fee	
		1005	160	2005 80 Provisional filing fee	160.00

SUBTOTAL (1) (\$160.00)

**2. EXTRA CLAIM FEES FOR UTILITY AND REISSUE**

Total Claims	Extra Claims	Fee from below	Fee Paid
Independent Claims	-20** =	X	
Multiple Dependent	-3** =	X	

Large Entity	Small Entity	Fee Code	Fee (\$)	Fee Description
		1202	18	2202 9 Claims in excess of 20
		1201	84	2201 42 Independent claims in excess of 3
		1203	280	2203 140 Multiple dependent claim, if not paid
		1204	84	2204 42 **Reissue independent claims over original patent
		1205	18	2205 9 **Reissue claims in excess of 20 and over original patent

SUBTOTAL (2) (\$)

\*\* or number previously paid, if greater. For Reissues, see above

**FEE CALCULATION (continued)****3. ADDITIONAL FEES**

Large Entity	Small Entity	Fee Code	Fee (\$)	Fee Description	Fee Paid
		1051	130	2051 65 Surcharge - late filing fee or oath	
		1052	50	2052 25 Surcharge - late provisional filing fee or cover sheet	
		1053	130	1053 130 Non-English specification	
		1812	2,520	1812 2,520 For filing a request for ex parte reexamination	
		1804	920*	1804 920* Requesting publication of SIR prior to Examiner action	
		1805	1,840*	1805 1,840* Requesting publication of SIR after Examiner action	
		1251	110	2251 55 Extension for reply within first month	
		1252	410	2252 205 Extension for reply within second month	
		1253	930	2253 465 Extension for reply within third month	
		1254	1,450	2254 725 Extension for reply within fourth month	
		1255	1,970	2255 985 Extension for reply within fifth month	
		1401	320	2401 160 Notice of Appeal	
		1402	320	2402 160 Filing a brief in support of an appeal	
		1403	280	2403 140 Request for oral hearing	
		1451	1,510	1451 1,510 Petition to institute a public use proceeding	
		1452	110	2452 55 Petition to revive - unavoidable	
		1453	1,300	2453 650 Petition to revive - unintentional	
		1501	1,300	2501 650 Utility issue fee (or reissue)	
		1502	470	2502 235 Design issue fee	
		1503	630	2503 315 Plant issue fee	
		1460	130	1460 130 Petitions to the Commissioner	
		1807	50	1807 50 Processing fee under 37 CFR 1.17(q)	
		1806	180	1806 180 Submission of Information Disclosure Stmt	
		8021	40	8021 40 Recording each patent assignment per property (times number of properties)	
		1809	750	2809 375 Filing a submission after final rejection (37 CFR § 1.129(a))	
		1810	750	2810 375 For each additional invention to be examined (37 CFR § 1.129(b))	
		1801	750	2801 375 Request for Continued Examination (RCE)	
		1802	900	1802 900 Request for expedited examination of a design application	

Other fee (specify)

\*Reduced by Basic Filing Fee Paid

SUBTOTAL (3)

(\$)

**SUBMITTED BY****Complete (if applicable)**

Name (Print/Type)	Steven A. Swernofsky	Registration No. (Attorney/Agent)	33,040	Telephone	650-947-0700
Signature	<i>Swernofsky</i>			Date	07-15-2003

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217.1019.01

22883

PATENT TRADEMARK OFFICE

## PATENT APPLICATION

This application is submitted in the name of the following inventors:

<i>Inventor</i>	<i>Citizenship</i>	<i>Residence City and State</i>
Paul RECHSTEINER	Canada	Toronto, Ontario (Canada)
Shawn NEELY	Canada	Sunnyvale, California
Lawrence KESTELOOT	United States	San Francisco, California
Michael MALCOLM	United States	Aspen, Colorado
Daniel COLLENS	Canada	Waterloo, Ontario (Canada)
Robert ZARNKE	Canada	Waterloo, Ontario (Canada)
Nik GERVAE	United States	Sunnyvale, California
Ray DEPAUL	Canada	Waterloo, Ontario (Canada)
Richard CZEGLEDI	Canada	Waterloo, Ontario (Canada)
Kevin HUI	Canada	Kitchener, Ontario (Canada)

The assignee is *Kaleidescape*, a corporation having an address in Mountain View, California.

TITLE OF THE INVENTION

# Bookmarks and Watchpoints for Selection and Presentation of Media Streams

## BACKGROUND OF THE INVENTION

### 1. *Field of the Invention*

The invention relates to selection and presentation of media streams; in aspects thereof, the invention relates to bookmarks and watchpoints, and to event handling, for selection and display of videos from media, such as for example DVD and other related media.

### 2. *Related Art*

In systems for presenting information, such as for example information relating to audiovisual media, users are able to present information already recorded on digital media. For example, DVD player systems provide users with the ability to play-back digital content pre-recorded on DVD media. In the incorporated disclosure (as described below) systems provide users with the ability to present media streams either after, or concurrently with, download of digital content representing those media streams from one or more content servers.

1           A first problem with known DVD media playback is that the process of  
2 playback involves interaction between the user and a pre-selected sequence of playback  
3 capabilities, recorded onto the DVD media by someone other than the user (such as a  
4 creator or distributor of that DVD media). For example, playback might involve navi-  
5 gation of a selection menu, might involve playback of audiovisual messages the creator  
6 or distributor has determined are advantageous for the user to be forced to watch (such  
7 as for example an anti-piracy warning, or such as for example one or more advertise-  
8 ments or pre-release announcements). Accordingly, it would at some times be advan-  
9 tageous to avoid being restricted by choices imposed on them by the creator or dis-  
10 tributor of the DVD media.

11  
12           A second problem with known playback techniques is that the user might  
13 have a substantial library of media streams from which the user might desire to present.  
14 For a first example, the user might wish to present short clips (or "trailers") of individ-  
15 ual movies as part of a process of selection or review of those individual movies. For  
16 example, the user might wish to present a trailer for an individual movie as part of de-  
17 ciding whether to purchase that movie (including for example on-line purchase of a  
18 downloaded copy) or to present that movie to a selected audience (including for exam-  
19 ple determining if that audience was interested in the movie in response to the selected  
20 trailer). For a second example, the user might wish to point to selections from media  
21 streams when analyzing, commenting on, reviewing, or selecting portions thereof. A  
22 first example thereof might be a biography of a known actor or director, including se-

1   lections of short clips of scenes used for illustrative and literary purposes. A second ex-  
2   ample thereof might be that the user wishes to present a short clip, such as a favorite  
3   scene, for presentation to a selected audience (including for example just the user them-  
4   self), or as part of a pedagogical exercise (including for example as a demonstration of  
5   acting technique or camera work).

6  
7           Both these problems are exacerbated by increases in the number of DVD  
8   media providers (whether creators or distributors), and by increases in the number of  
9   media streams available to the user. Moreover, both these problems might inhibit de-  
10   velopment of a convenient UI (user interface) for selection and presentation of media  
11   streams, whether from recorded physical media or downloaded from one or more con-  
12   tent servers.

13  
14           Accordingly, it would be advantageous to provide an improved technique  
15   for video selection and presentation, relatively less subject to problems with known  
16   techniques.

## 17 18           SUMMARY OF THE INVENTION

19  
20           The invention provides a method and system capable of selection and  
21   presentation of media streams, in which presentation is not substantially limited by any  
22   order imposed by the digital content representative of those media streams.



1

2           In one aspect, the invention provides a method and system capable of cre-  
3     ating and referencing a bookmark to a location selected within the media stream, not  
4     necessarily pre-selected by the creator or distributor of that media stream, and possibly  
5     dynamically selected by a recipient of digital content representing that media stream.  
6     In addition to referencing the bookmark, the invention provides a user with the capa-  
7     bility of starting or restarting presentation from the selected bookmark.

8

9           In one aspect, the invention provides a method and system capable of cre-  
10    ating a watchpoint at a location selected within the media stream, or a presentation  
11    state otherwise associated with presentation of the media stream, and capable of associ-  
12    ating an one or more events with that watchpoint. For one example, the user might  
13    designate a bookmark at the beginning of a selected film clip, a watchpoint with the end  
14    of that same film clip, and an event associated with the watchpoint, which event directs  
15    a presentation device to return to a presentation state it was at before presenting from  
16    the bookmark. In this example, the film clip effectively acts as a media element capable  
17    of being inserted into another, different, media stream (or more generally, into any  
18    other user interface or media presentation, the original user interface or media presen-  
19    tation not necessarily including any original media streams of its own), without in-  
20    volving any other digital content associated with the larger media stream that contains  
21    that film clip.

22

1           In one aspect, the invention provides a method and system capable of se-  
2   lecting one of a set of such film clips (bookmark-watchpoint pairs) for presentation, in  
3   response to a user input, a user preference, a playback device configuration, demo-  
4   graphic information about the user or the playback device, or other pertinent informa-  
5   tion. For a first example, a single DVD might have a first version of its movie better  
6   suited for presentation on a regular television screen, and a second version of its movie  
7   better suited for presentation on a widescreen or HDTV television screen. For a second  
8   example, a single DVD might have a first version of its movie better suited for presen-  
9   tation to a mature audience, and a second version of its movie better suited for presen-  
10   tation to a less-mature audience. For a third example, a single DVD might have a set of  
11   versions of its movie with selected different plot points or movie endings, for those dif-  
12   ferent audiences or users who prefer the movie to have a happy ending or otherwise.  
13   For a fourth example, a single DVD might have a shorter (abridged) and a longer (un-  
14   abridged) version of the same movie, selectable by the user.

15  
16           In one aspect, the invention provides a method and system capable of  
17   testing one or more state variables at such bookmarks or watchpoints, and of taking dif-  
18   ferent actions in response to distinct values of those state variables. In one embodiment,  
19   the invention provides a user with the capability of designing a sequence of actions  
20   (conditional or unconditional), by which selections from media streams might be pre-  
21   sented in response to digital content representing those media streams and in response  
22   to other information. Such other information might include the scope of a license af-

1   forded to the user, demographic or other metadata about that user, or interactive activ-  
2   ity with that user (or more than one such user). Such a sequence of actions might be re-  
3   corded, retrieved, transmitted, or received, similar to digital content representing any  
4   other type of media stream.

5  
6           In one embodiment, the invention might include bookmarks created or  
7   edited using one or more techniques or by one or more types of creators. For a first ex-  
8   ample, bookmarks might be created in conjunction with the original content, such as for  
9   example by an author, creator, distributor, or synchronizer, of the original content. For  
10   a second example, bookmarks might be created by a party other than in conjunction  
11   with the original content, such as for example by a secondary distributor of the content,  
12   a server providing the content to an end-user along with newly-associated metadata, a  
13   translator of the original content, such as a person adding subtitles in a second or an al-  
14   ternative language or "dubbing" in sound in a second or an alternative, or such as an  
15   editor of the movie for a specific purpose, such as for example a purpose suitable for  
16   airliner use, for children, or for export to selected countries. For a third example,  
17   bookmarks might be created by end-user preferences, either explicit or implicit or some  
18   combination or conjunction thereof, such as for example in response to the end-user  
19   designating a favorite scene, or such as for example in response to the end-user skip-  
20   ping over a disfavored scene, or such as for example in response to demographic infor-  
21   mation about the end-user. Similar to bookmarks, the invention might also include

1 watchpoints created using one or more techniques or by one or more types of creators,  
2 as described above with regard to creation or editing of bookmarks.  
3

4 After reading this application, those skilled in the art would recognize that  
5 the invention is an enabling technology by which substantial advance is made in the art  
6 of media streams and digital content representative thereof. For example, the invention  
7 might be used to provide one or more of, or some combination or extension or mixture  
8 of, any of the following:  
9

- 10 • Saving selected scenes from movies and requesting playback of those scenes, ei-  
11 ther in response to user command, pointers to those scenes, or metadata de-  
12 scribing those scenes.  
13
- 14 • Pausing movies during presentation on a first device and requesting playback on  
15 a second device, such as for example in response to user command.  
16
- 17 • Assembling a collection of such selected scenes, possibly along with commen-  
18 tary, or possibly embedded in another media stream for which those selected  
19 scenes are exemplary or illustrative.  
20

- 1     • Assembling a collection of bookmarks or watchpoints, possibly along with com-  
2       mentary; maintaining that collection in a database or other metadata; or sending  
3       that collection from one device to another.  
4
- 5     • Creating and presenting a demonstration of a home video system, including  
6       demonstration of selection and presentation of media streams as part of the  
7       demonstration. In one embodiment, the demonstration itself might be interac-  
8       tive, and include the capability for the user to select which media streams are se-  
9       lected or presented as part of the demonstration itself.  
10
- 11    • Creating and presenting a media stream by which a pseudorandom or random  
12      process determines presentation of such selected scenes, possibly in response to  
13      other information. In one embodiment, the pseudorandom or random process  
14      might select film clips in response to known preferences of the user, thus pro-  
15      viding the capability of a film clip "screen saver" or a variant of the MTV chan-  
16      nel.  
17
- 18    • Pausing, restarting, and repeating presentation of media streams, even for media  
19      for which such functions are not originally supported.  
20

- 1       • Direct access to feature presentations within recorded digital media, without any  
2       substantial requirement for navigating via pre-recorded menus or pre-recorded  
3       advertising, announcements, or warnings.  
4
- 5       • Direct access to supplements to such feature presentations, or trailers associated  
6       with such feature presentations, within recorded digital media, without any sub-  
7       stantial requirement for navigating via pre-recorded menus or pre-recorded ad-  
8       vertising, announcements, or warnings.  
9
- 10      • Presentation of media streams represented by digital content recorded on multi-  
11      ple volumes of digital media, such as for example movies recorded on more than  
12      one DVD, without any substantial requirement for the user to intervene at a  
13      switching point between those multiple volumes.  
14
- 15      • Performing operations external to presentation in response to the media stream,  
16      such as for example turning up room lights at the start of movie credits, dimin-  
17      ishing sound volume during commercial breaks, or pausing presentation in re-  
18      sponse to aspects of the movie (such as for example at a commercial break in a  
19      broadcast movie).  
20
- 21      • Creating and presenting a computer game using individual film clips, either  
22      from pre-existing DVD media or newly-created digital content. For example, the

1 computer game might be interactive, or might respond to external information,  
2 such as for example a television news feed.  
3

4 In one embodiment, the invention includes a representation of a presenta-  
5 tion state (herein sometimes called "P state") and a virtual machine state (herein some-  
6 times called "VM state"), each of which is updated concurrently with presentation of  
7 the media stream.  
8

9 A bookmark preferably includes a defined P state and VM state to which a  
10 presenting device might be set, with the effect of providing that presenting device with  
11 the capability of presentation beginning at that bookmark. In one embodiment, pres-  
12 entation might instead begin at a closest "entry location" designated by the digital con-  
13 tent representing that media stream. In one embodiment, the defined P state or VM  
14 state might include a known "title number" within DVD media on which is recorded  
15 the digital content representing that media stream.  
16

17 A watchpoint preferably includes a defined P state and VM state, along  
18 with one or more associated triggerable actions, with the effect that whenever the pre-  
19 senting device attempts to match its P state and VM state with that watchpoint, a suffi-  
20 cient degree of similarity (possibly for a subset of data associated with each such state)  
21 would cause the watchpoint to be triggered and the associated actions would be per-  
22 formed. For example, the presenting device might attempt to match its P state and VM

1 state with selected watchpoints after each known frame of the media stream, or at the  
2 beginning or end of each subsegment of the media stream designated by the digital  
3 content representing that media stream.

4  
5 **INCORPORATED DISCLOSURE**  
6

7 This application claims priority of the following documents, each of which  
8 is hereby incorporated by reference as if fully set forth herein.

- 9
- 10 • U.S. provisional patent application 60/439,330, filed January 31, 2003, in the  
11 name of Shawn NEELY, Lawrence KESTELOOT, Margaret NOVOTNY, Marion  
12 BUCHENAU, Sheila FOLEY, and Michael O'NEIL, attorney docket number  
13 217.1014.01, titled "User Interface for Video Selection and Display".  
14
  - 15 • U.S. patent application 10/418,949, filed April 18, 2003, in the name of Shawn  
16 NEELY, Lawrence KESTELOOT, Margaret NOVOTNY, Marion BUCHENAU,  
17 Sheila FOLEY, and Michael O'NEIL, attorney docket number 217.1017.01, titled  
18 "Guide-Like User Interface for Video Selection and Display".  
19
  - 20 • U.S. patent application 10/418,739, filed April 18, 2003, in the name of Shawn  
21 NEELY, Lawrence KESTELOOT, Margaret NOVOTNY, Marion BUCHENAU,



1 Sheila FOLEY, and Michael O'NEIL, attorney docket number 217.1018.01, titled  
2 "Mosaic-Like User Interface for Video Selection and Display".  
3

4 These documents are hereby incorporated by reference as if fully set forth  
5 herein, and are sometimes referred to herein as the "incorporated disclosure".  
6

7 Inventions described herein can be used in combination or conjunction  
8 with technology described in the incorporated disclosure.  
9

#### 10 DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT 11

12 In the description herein, a preferred embodiment of the invention is de-  
13 scribed, including preferred process steps and data structures. Those skilled in the art  
14 would realize, after perusal of this application, that embodiments of the invention  
15 might be implemented using a variety of other techniques not specifically described,  
16 without undue experimentation or further invention, and that such other techniques  
17 would be within the scope and spirit of the invention.  
18

#### 19 *Lexicography* 20

21 The general meaning of each of these following terms is intended to be il-  
22 lustrative and in no way limiting.

- 1
- 2 • The phrase "media stream" describes information intended for presentation in a  
3 sequence, such as motion pictures including a sequence of frames or fields, or  
4 such as audio including a sequence of sounds. As used herein, the phrase  
5 "media stream" has a broader meaning than the standard meaning for  
6 "streaming media," (of sound and pictures that are transmitted continuously  
7 using packets and that start to play before all of the content arrives). Rather, as  
8 described herein, there is no particular requirement that "media streams" must  
9 be delivered continuously. Also as described herein, media streams can refer to  
10 other information for presentation, such as for example animation or sound, as  
11 well as to still media, such as for example pictures or illustrations, and also to  
12 databases and other collections of information.

- 13
- 14 • The phrase "digital content" describes data in a digital format, intended to repre-  
15 sent media streams or other information for presentation to an end viewer.  
16 "Digital content" is distinguished from packaging information, such as for ex-  
17 ample message header information. For the two phrases "digital content" and  
18 "media stream," the former describes a selected encoding of the latter, while the  
19 latter describes a result of presenting any encoding thereof.

- 20
- 21 • The phrases "digital media," "DVD media," and the like, describe media capable  
22 of maintaining digital content in an accessible form. DVD media specifically de-

1 scribes a family of encoding formats including DVD-video (such as for example  
2 used with media including digital video disks or equivalents thereof).

- 3
- 4 • The terms "playback," "presentation," and the like, describe presentation (such  
5 as for example to one or more users) of audio, visual, or other features of media  
6 streams.

- 7
- 8 • The phrase "content server" describes a device (or a portion thereof, or a set of  
9 such devices or portions thereof) capable of sending digital content to recipients.  
10 For example, a content server might include a web server at which a user is pro-  
11 vided the capability of purchasing digital media for download. In the context of  
12 this application, there is no particular requirement that the server be (logically or  
13 physically) located at any particular address or place, or have any particular ar-  
14 chitecture, or use any particular protocol for communication. For example, the  
15 content server might include a process logically available to a local presentation  
16 device.

- 17
- 18 • The term "bookmark" describes a reference to a logical location selected within a  
19 media stream. In one embodiment, bookmarks are not necessarily pre-selected  
20 by the creator or distributor of that media stream, and are possibly dynamically  
21 selected by a recipient of digital content representing that media stream. In one

1       embodiment, presentation devices are capable of starting or restarting presenta-  
2       tion from a selected bookmark.

- 3
- 4       • The term "watchpoint" describes a reference to a logical state of a presentation  
5       device, such as for example a logical location selected within a media stream. In  
6       one embodiment, watchpoints are capable of associating an one or more events  
7       therewith, and (preferably) those one or more events might be conditioned on  
8       some other data or state information. For one example, the user might designate  
9       a bookmark at the beginning of a selected film clip, a watchpoint with the end of  
10      that same film clip, and an event associated with the watchpoint, which event di-  
11      rects a presentation device to return to a presentation state it was at before pre-  
12      senting from the bookmark. In this example, the film clip effectively acts as a  
13      media element capable of being inserted into another, different, media stream,  
14      without involving any other digital content associated with the larger media  
15      stream that contains that film clip.

16

17       The scope and spirit of the invention is not limited to any of these defini-  
18      tions, or to specific examples mentioned therein, but is intended to include the most  
19      general concepts embodied by these and other terms.

## Alternative Embodiments

Although preferred embodiments are disclosed herein, many variations are possible which remain within the concept, scope, and spirit of the invention. These variations would become clear to those skilled in the art after perusal of this application.

- The invention is not restricted to movies, but is also applicable to other media streams, such as for example animation or sound, as well as to still media, such as for example pictures or illustrations, and to databases and other collections of information.

Those skilled in the art will recognize, after perusal of this application, that these alternative embodiments are illustrative and in no way limiting.

## TECHNICAL APPENDIX

Other and further information about the invention, and embodiments thereof, are included in a technical appendix, hereby incorporated by reference as if fully set forth herein. The technical appendix includes the following documents:

- 1 • 1 "Automatic Masking." (Paul Rechsteiner, Nik Gervae, Shawn Neely, Michael  
2 Malcolm, Ray DePaul, Daniel Collens)
- 3 • 2 "Deletion of Movies." (Daniel Collens, Kevin Hui, Lawrence Kesteloot, Richard  
4 Czegledi, Michael Malcolm, Paul Rechsteiner)
- 5 • 3 "DVD Import and Cache Misses." (Daniel Collens, Shawn Neely, Richard  
6 Czegledi, Robert Zarnke, Paul Rechsteiner, Kevin Hui)
- 7 • 4 "DVD Reader User Experience." (Daniel Collens, Shawn Neely, Lawrence Ke-  
8 steloot)
- 9 • 5 "DVD Bookmarks." (Paul Rechsteiner, Shawn Neely, Michael Malcolm, Law-  
10 rence Kesteloot, Daniel Collens, Robert Zarnke)
- 11 • 6 "Installation Guide." (Shawn Neely, Lawrence Kesteloot, Daniel Collens, Ray  
12 DePaul, Paul Rechsteiner)
- 13 • 7 "OSD Standby Mode." (Paul Rechsteiner, Lawrence Kesteloot, Daniel Collens)
- 14 • 8 "Packages, Selections, and Play Items." (Shawn Neely, Lawrence Kesteloot,  
15 Daniel Collens)
- 16 • 9 "PVL UI Feature Requirements." (Shawn Neely, Paul Rechsteiner, Robert  
17 Zarnke, Daniel Collens, Richard Czegledi, Lawrence Kesteloot)
- 18 • 10 "Kaleidescape Home Video System Functional Overview." (Paul Rechsteiner,  
19 Daniel Collens, Shawn Neely)
- 20 • 11 "Serial Control Protocol." (Lawrence Kesteloot, Richard Czegledi, Paul  
21 Rechsteiner, Michael Malcolm, Daniel Collens)
- 22

- 1 • 12 "Suggested Touch Panel Layouts." (Shawn Neely, Lawrence Kesteloot, Daniel  
2 Collens)
- 3 • 13 "UI States." (Shawn Neely, Lawrence Kesteloot, Michael Malcolm, Daniel  
4 Collens)
- 5 • 14 "User-Defined Favorite Scenes." (Shawn Neely, Lawrence Kesteloot, Michael  
6 Malcolm, Daniel Collens)

7  
8       Inventions described herein can be used in combination or conjunction  
9 with technology described in the technical appendix.

## CLAIMS

1  
2  
3 1. A method, including steps of  
4 sending a media stream to a first recipient;  
5 creating a bookmark into that media stream at that first recipient, the  
6 bookmark being not pre-selected by a the creator or distributor of that media stream;  
7 sending that media stream and that bookmark to a second recipient;  
8 dynamically selecting that bookmark at that second recipient; and  
9 presenting that media stream beginning at a point designated by that  
10 bookmark.

11  
12 2. A method, including steps of  
13 creating a watchpoint describing either (a) a presentation state in a media  
14 stream, or (b) another state associated with presentation of that media stream; and  
15 associating one or more events with that watchpoint;  
16 whereby when said presentation state or other state is reached, those one  
17 or more events are performed with regard to that media stream.

18  
19 3. A method as in claim 2,  
20 wherein one of those events includes directing a presentation device to go  
21 to a bookmark indicating a different presentation state associated with a beginning of a  
22 film clip from that media stream;



1           whereby the combination of the bookmark and the watchpoint enable that  
2 film clip to be presented again.

3  
4           4.     A method as in claim 1, including steps of  
5           testing one or more state variables at a selected watchpoint; and  
6           performing an action associated with one of the events associated with  
7 that watchpoint, in response to a result of the steps of testing.

8  
9           5.     A method as in claim 4, wherein that action includes a sequence of  
10 conditional or unconditional instructions.

11  
12          6.     A method as in claim 4, wherein that action includes a sequence of  
13 instructions capable of being recorded, retrieved, sent, or received.

14  
15          7.     A method as in claim 4, wherein that action includes presenting  
16 one or more selections from designated media streams, in response to information other  
17 than found in digital content representing those designated media streams.

18  
19          8.     A method as in claim 7, wherein that information includes at least  
20 one of: a license afforded to the user, a set of demographic or other metadata about that  
21 user, or a set of information gleaned from interactive activity with that user or more  
22 than one such user.

1  
2           9.     A method as in claim 2,

3                 wherein one of those events includes directing a presentation device to go  
4     to a bookmark indicating a different presentation state associated with presentation of  
5     that media stream;

6                 whereby the combination of the bookmark and the watchpoint enable a  
7     portion of that media stream to be presented as an film clip capable of being inserted  
8     into a distinct user presentation.

9  
10           10.    A method as in claim 9, including steps of presenting one of a set of  
11   such film clips in response to at least one of: a configuration of a presentation device, a  
12   user input, a user preference, a set of demographic information about that user or that  
13   presentation device.

14  
15           11.    A method as in claim 9, wherein that distinct user presentation in-  
16   cludes at least one of: a media presentation, a media stream, a user interface, a user  
17   presentation received from a source device, a user presentation recorded on physical  
18   media.

19  
20           12.    A method as in claim 9, including steps of selecting one of a set of  
21   media streams each designated by at least one such bookmark.

1           13.    A method as in claim 12, wherein a single physical media includes  
2   a first media stream suited for presentation on a first presentation device, and a second  
3   media stream suited for presentation on a second presentation device.  
4

5           14.    A method as in claim 12, wherein a single physical media includes  
6   a first media stream suited for presentation to a set of users having a first demographic,  
7   and a second media stream suited for presentation to a set of users having a second  
8   demographic.  
9

10          15.    A method as in claim 12, wherein a single physical media includes  
11   a plurality of media streams each identifiable or selectable in response to at least one  
12   such bookmark.  
13

14          16.    A method as in claim 12,  
15                  wherein a single physical media includes a set of media streams differing  
16   in length, and  
17                  including steps of selecting one such media stream for presentation.  
18

19          17.    A method as in claim 12,  
20                  wherein a single physical media includes a set of media streams differing  
21   in storyline, and  
22                  including steps of selecting one such media stream for presentation.

**Bookmarks and Watchpoints for Video Selection and Presentation**

**Paul RECHSTEINER et al.**

**ABSTRACT OF THE DISCLOSURE**

Selection and presentation of media streams, in which presentation is not limited by order imposed by the digital content representative of those media streams, in response to bookmarks and watchpoints settable and usable by a user. Bookmarks reference a location within the media stream, not necessarily pre-selected and possibly dynamically selected, in which a presentation can be started or restarted therefrom. Watchpoints reference a location within the media stream, or a presentation state for the media stream, in which an event can be triggered thereby. Bookmarks and watchpoints provide a general technique for presenting selections from media streams in response to metadata.



## **Application Data Sheet**

### **Application Information**

Application Type::	Provisional
Subject Matter::	Utility
CD-ROM or CD-R?::	None
Title Line One::	Bookmarks and Watchpoints for Selection
Title Line Two::	and Presentation of Media Streams
Title Line Three::	
Attorney Docket Number::	217.1019.01
Request for Early Publication?::	No
Request for Non-Publication?::	No
Suggested Drawing Figure::	
Total Drawing Sheets::	
Small Entity?::	No
Petition included?::	No
Petition Type::	
Licensed US Govt. Agency::	
Contract or Grant Numbers::	
Secrecy Order in Parent Appl.?::	No

### **Applicant Information**

Applicant Authority Type::	Inventor
Primary Citizenship Country::	Canada
Status::	Full Capacity
Given Name::	Paul
Family Name::	Rechsteiner
Name Suffix::	
City of Residence::	Toronto
State or Province of Residence::	ON
Country of Residence::	Canada

Street of mailing address Line One:: 109 Front Street E  
Street of mailing address Line Two:: Apartment 627  
City of mailing address:: Toronto  
State or Province of mailing address:: ON  
Country of mailing address:: Canada  
Postal or Zip Code of mailing address:: M5A 4P7

Applicant Authority Type:: Inventor  
Primary Citizenship Country:: Canada  
Status:: Full Capacity  
Given Name:: Shawn R.  
Family Name:: Neely

Name Suffix::  
City of Residence:: Sunnyvale  
State or Province of Residence:: CA  
Country of Residence:: USA  
Street of mailing address Line One:: 807 West Remington Drive  
Street of mailing address Line Two::  
City of mailing address:: Sunnyvale  
State or Province of mailing address:: CA  
Country of mailing address:: USA  
Postal or Zip Code of mailing address:: 94087

Applicant Authority Type:: Inventor  
Primary Citizenship Country:: US  
Status:: Full Capacity  
Given Name:: Michael A.  
Family Name:: Malcolm  
Name Suffix::  
City of Residence:: Aspen  
State or Province of Residence:: CO

Country of Residence:: USA  
Street of mailing address Line One:: P.O. Box 7667  
Street of mailing address Line Two::  
City of mailing address:: Aspen  
State or Province of mailing address:: CO  
Country of mailing address:: USA  
Postal or Zip Code of mailing address:: 81612

Applicant Authority Type:: Inventor  
Primary Citizenship Country:: US  
Status:: Full Capacity  
Given Name:: Lawrence  
Family Name:: Kesteloot  
Name Suffix::

City of Residence:: San Francisco  
State or Province of Residence:: CA  
Country of Residence:: USA  
Street of mailing address Line One:: 690 Pennsylvania Avenue #217  
Street of mailing address Line Two::  
City of mailing address:: San Francisco  
State or Province of mailing address:: CA  
Country of mailing address:: USA  
Postal or Zip Code of mailing address:: 94107

Applicant Authority Type:: Inventor  
Primary Citizenship Country:: Canada  
Status:: Full Capacity  
Given Name:: Daniel A.  
Family Name:: Collens  
Name Suffix::  
City of Residence:: Waterloo

State or Province of Residence:: ON  
Country of Residence:: Canada  
Street of mailing address Line One:: 790 Bonavista Drive  
Street of mailing address Line Two::  
City of mailing address:: Waterloo  
State or Province of mailing address:: ON  
Country of mailing address:: Canada  
Postal or Zip Code of mailing address:: N2K 3Z8

Applicant Authority Type:: Inventor  
Primary Citizenship Country:: Canada  
Status:: Full Capacity  
Given Name:: Robert  
Family Name:: Zamke  
Name Suffix::  
City of Residence:: Waterloo  
State or Province of Residence:: ON  
Country of Residence:: Canada

Street of mailing address Line One::  
Street of mailing address Line Two::  
City of mailing address:: Waterloo  
State or Province of mailing address:: ON  
Country of mailing address:: Canada  
Postal or Zip Code of mailing address::

Applicant Authority Type:: Inventor  
Primary Citizenship Country:: US  
Status:: Full Capacity  
Given Name:: Nik  
Family Name:: Gervae



Name Suffix::  
City of Residence:: Sunnyvale  
State or Province of Residence:: CA  
Country of Residence::  
Street of mailing address Line One::  
Street of mailing address Line Two::  
City of mailing address:: Sunnyvale  
State or Province of mailing address:: CA  
Country of mailing address::  
Postal or Zip Code of mailing address::

Applicant Authority Type:: Inventor  
Primary Citizenship Country:: Canada  
Status:: Full Capacity  
Given Name:: Ray  
Family Name:: DePaul  
Name Suffix::  
City of Residence:: Waterloo  
State or Province of Residence:: ON  
Country of Residence:: Canada  
Street of mailing address Line One::  
Street of mailing address Line Two::  
City of mailing address:: Waterloo  
State or Province of mailing address:: ON  
Country of mailing address:: Canada  
Postal or Zip Code of mailing address::

Applicant Authority Type:: Inventor  
Primary Citizenship Country:: Canada  
Status:: Full Capacity  
Given Name:: Richard

**Family Name::** Czegledi

**Name Suffix::**

**City of Residence::** Waterloo

**State or Province of Residence::** ON

**Country of Residence::** Canada

**Street of mailing address Line One::**

**Street of mailing address Line Two::**

**City of mailing address::** Waterloo

**State or Province of mailing address::** ON

**Country of mailing address::** Canada

**Postal or Zip Code of mailing address::**

**Applicant Authority Type::** Inventor

**Primary Citizenship Country::** Canada

**Status::** Full Capacity

**Given Name::** Kevin

**Family Name::** Hui

**Name Suffix::**

**City of Residence::** Kitchener

**State or Province of Residence::** ON

**Country of Residence::** Canada

**Street of mailing address Line One::** 308-29 West Avenue

**Street of mailing address Line Two::**

**City of mailing address::** Kitchener

**State or Province of mailing address::** ON

**Country of mailing address::** Canada

**Postal or Zip Code of mailing address::** N2M 5E4

#### **Correspondence Information**

**Correspondence Customer Number::** 22883

**Representative Information**

<b>Representative Customer Number:.</b>	<b>22883</b>
---	--------------

# Document made available under the Patent Cooperation Treaty (PCT)

International application number: PCT/US04/022847

International filing date: 14 July 2004 (14.07.2004)

Document type: Certified copy of priority document

Document details: Country/Office: US  
Number: 60/488,367  
Filing date: 15 July 2003 (15.07.2003)

Date of receipt at the International Bureau: 06 September 2004 (06.09.2004)

Remark: Priority document submitted or transmitted to the International Bureau in compliance with Rule 17.1(a) or (b)



World Intellectual Property Organization (WIPO) - Geneva, Switzerland  
Organisation Mondiale de la Propriété Intellectuelle (OMPI) - Genève, Suisse